

**Notice of Allowability**

Application No.

10/085,708

Examiner

Nguyen T Ha

Applicant(s)

KUROSAWA ET AL.

Art Unit

2831

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/16/2003.
2. ☒ The allowed claim(s) is/are 1-10 and 12.
3. ☒ The drawings filed on 01 March 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____             |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No. _____  | 7 <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|   | 9 <input type="checkbox"/> Other  |

## DETAILED ACTION

### *Allowable Subject Matter*

1. Claims 1-10 and 12 are allowed.

The following is an examiner's statement of reasons for allowance:

With respect to claims 1-9, the prior art alone or in combination does not teach the limitation of protection relay comprising a filter means<sup>s</sup>, wherein the filter means *PR 12/29/03* comprises:

first filter means for inputting the sampling data  $v_m$  and  $i_m$  at the first time  $T_m$  to a digital filter having transfer function  $f(Z).(1+k.Z^{-1}+Z^{-2})$  ( $Z$  indicates a  $Z$  conversion operator) so as to output a first voltage data and first current data; and

second filter means for inputting the sampling data  $v_m$ ,  $i_m$  at the first time  $T_m$  to a digital filter having transmission  $f(Z).(1-Z^{-2})$  ( $Z$  indicates a  $Z$  conversion operator) so as to output a second voltage data and second current data.

With respect to claim 10, the prior art alone or in combination does not teach the limitation of a protection relay for determining whether or not a fault point of power system exists in a predetermined range, comprising:

first filter means for inputting sampling data  $v_m$  and  $i_m$  of voltage ( $v$ ) and current ( $i$ ) in the power system to a digital filter having transfer function  $f(Z).(1+k.Z^{-1}+Z^{-2})$  ( $Z$  indicates a  $Z$  conversion operator) so as to output voltage data  $v_{sm}$  and current data  $i_{sm}$ ;

second filter means for inputting a sampling data  $v_m$  and  $i_m$  to a digital filter having transfer function  $f(Z).(1-Z^{-2})$  ( $Z$  indicates a  $Z$  conversion operator) so as to output voltage data  $v_{jm}$  and current data  $i_{jm}$  normal to the voltage data  $v_{sm}$  and current data  $i_{sm}$ .

With respect to claim 12, the prior art alone or in combination does not teach the limitation of a protection relay for determining whether or not a fault point of a power system exists in a predetermined range comprising:

a first digital filter having applied thereto inputs including sampling data of voltage and current of the power system and having a first transfer function  $f(Z).(1+k.Z^{-1}+Z^{-2})$  ( $Z$  indicates a  $Z$  conversion operator) so as to output first voltage data and first current data;

a second digital filter having applied thereto inputs including the sampling data of the voltage and the current of the power system and having a second transfer function  $f(Z).(1-Z^{-2})$  so as to output second voltage data second current data, the second voltage data and the second current data being normal to the first voltage data and the first current data, respectively.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen T Ha whose telephone number is 703-308-6023. The examiner can normally be reached on Monday-Friday from 8:30AM to 6:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 703-308-3682. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3432 for regular communications and 703-305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

**NH**  
**December 29, 2003**

 12/29/03  
DEAN A. REICHARD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800